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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,096	04/14/2004	Alessandro Venca	03-S-053	6147

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EXAMINER

RODRIGUEZ, GLENDA P

ART UNIT PAPER NUMBER

2651

DATE MAILED: 11/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/824,096

Applicant(s)

VENCA ET AL.

Examiner

Glenda P. Rodriguez

Art Unit

2651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-10 is/are allowed.
- 6) ☒ Claim(s) 11, 16 and 17 is/are rejected.
- 7) ☒ Claim(s) 12-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/25/04</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klaasen et al. (US Patent No. 6, 671, 113).

Regarding Claim 11, Klaasen et al. teaches a write driver with an interconnect (Col. 2, L. 64-67) with an odd characteristic impedance (Col. 3, L. 16-28 and L. 66 to Col. 4, L. 20, wherein Klaasen et al. teaches that the impedance has a characteristic. The description of the Applicant with respect to the term "odd characteristic" is not explicitly defined in the Applicant's Specification, therefore the Examiner assumes that a characteristic impedance is an odd impedance.), the write driver comprising:

A first and second current source connected to a first input of the interconnect providing a first and second source current step, the first and second current steps each having a magnitude about half the write current (See Summary of the Invention, wherein Klaasen et al. teaches the behavior of the current in the impedances (or resistors) wherein they are augmented with polarity reversals, therefore not having the same magnitude that the write current.);

A first resistor connected to the first input of the interconnect having a resistance substantially equal to the odd characteristic impedance of the interconnect (Col. 3, L. 16-28 and L. 66 to Col. 4, L. 20 and See Fig. 3(c));

A second resistor connected to the second input of the interconnect having a resistance substantially equal to the odd characteristic impedance (Col. 3, L. 16-28 and L. 66 to Col. 4, L. 20 and See Fig. 3(c)).

Method claim (16) is drawn to the method of using the corresponding apparatus claimed in claim (11). Therefore method claim (16) corresponds to apparatus claim (11) and is rejected for the same reasons of obviousness as used above.

Regarding Claim 17, Klaasen et al. teach all the limitations of Claim 16. Klaasen et al. further teach wherein the first driving comprises operating a first voltage source to apply a voltage drop to the first output resistance and the second driving comprises operating a second voltage source to apply a voltage drop to the second output resistance and further wherein for a period of time after transition from either of the first and second driving, the first and second voltage sources apply no voltage drop on the first and second output resistances, the period of time being equal to about twice a transmission delay of the interconnect (See Summary of the Invention).

***Allowable Subject Matter***

3. Claims 12-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding Claim 12, the primary reason for allowable subject matter is the inclusion of the limitation wherein a first buffer connected to an input of the first current source and to an input of the first resistor and a second buffer connected to an input of the second current source and to an input of the second resistor a first transistor connected to an input of the first buffer a second transistor connected to an input of the second buffer; a third resistor connected to the input of the first buffer; and a fourth resistor connected to the input of the second buffer.

Regarding Claim 15, the primary reason for allowable subject matter is the inclusion of the limitation wherein the write driver is configured to have power consumption defined by the product of the square of the write current and odd characteristic impedance of the interconnect divided by four for a period of time equal to twice a transmission delay of the interconnect.

4. Claims 1-10 are allowed.

Regarding Claims 1 and 7, the primary reason for allowance is the inclusion of the limitation wherein means for generating a source current output whereby power consumption of the write driver is one fourth of a product of the source current output and the odd characteristic impedance of the interconnect during a time period of twice the transmission delay of the interconnect.


### *Conclusion*


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenda P. Rodriguez whose telephone number is (571) 272-7561. The examiner can normally be reached on Monday thru Thursday: 7:00-5:00; alternate Friday.

Art Unit: 2651

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
gpr  
11/10/05.

  
**DAVID HUDSPETH**  
**SUPERVISORY PATENT EXAMINER**  
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